

**MEMORANDUM**

**TO:** Board of Trustees

**THROUGH:** Indra Winquest  
District General Manager

**FROM:** Brad Underwood, P.E.  
Director of Public Works

**SUBJECT:** Review, discuss, and possibly authorize Additional Services Amendment #2 for the Effluent Pond Lining Project – 2599SS2010 – Fund: Utility; Division: Sewer; Vendor: Jacobs Engineering, Inc., in the amount of \$425,339.00 for the Effluent Pond Lining Project - Phase II Pond Lining Preliminary and Final Design Professional Services, plus up to approximately 10% contingency.

**DATE:** September 2, 2021

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**I. RECOMMENDATION**

That the Board of Trustees moves to:

1. Authorize Additional Services Addendum #2 for the Effluent Pond Lining Project – 2599SS2010 – Fund: Utility; Division: Sewer; Vendor: Jacobs Engineering, Inc. in the amount of \$425,339.00 for the Effluent Pond Lining Project - Phase II Pond Lining Preliminary and Final Design Professional Services.
2. Authorize Staff to execute change orders for additional work not anticipated at this time of up to approximately 10% of the contract; up to the amount of \$40,000.00.
3. Authorize Staff to execute the contract documents.

**II. BACKGROUND**

At the July 13, 2021 IVGID Board of Trustees meeting, the Board approved utilization of Mill Creek Pond #2 for effluent storage and authorized Staff to enter into a no cost additional services amendment for Phase I professional design services with Jacobs Engineering. Staff has also requested Jacobs Engineering provide a detailed scope of work and cost proposal for Phase II Preliminary and

## Final Design professional services (Attachment A) for the Effluent Pond Lining Project 2599SS2010.

The Incline Village General Improvement District (IVGID or District) operates a wastewater collection, treatment, and effluent export system that serves the communities of Incline Village and Crystal Bay, Nevada and the Nevada State Parks (Sand Harbor, Spooner and Memorial Point) located at Lake Tahoe. A required component of the Nevada Department of Environmental Protection (NDEP) operating permit is to have an emergency effluent storage basin that is lined to protect groundwater.

Currently IVGID has two (2) storage basins and a 500,000-gallon effluent storage tank adjacent to the WRRF. Both basins are unlined and are not to be utilized in an emergency situation due to recent changes from the NDEP. The storage tank is considered undersized for anticipated emergency needs. Due to the lack of available effluent storage at the WRRF, the District is not able to conduct planned maintenance of the effluent export system, which puts the District at risk of a discharge of effluent to the waters of Lake Tahoe in the event of a significant emergency.

IVGID's design consultant, Jacobs Engineering, analyzed the available storage sizes of each storage basin. It has been determined that lining Mill Creek Pond #2 will provide ample storage for an emergency situation as well as provide a four-day construction window for the Phase II Effluent Export Pipeline Replacement Project. This could lead to reduced construction costs to allow work to continue for a longer period without having to put the system online for pumping. The lining may also eliminate the need to re-treat this effluent through the Plant, speeding recovery from an emergency.

The following work has been completed to date:

- In September 2018, Jacobs prepared the WRRF Effluent Storage Alternative Analysis Memorandum.
- Granite Construction, CMAR Contractor, has reviewed Jacobs WRRF Alternative Analysis Memorandum, provided the District with a Findings Memorandum and recommended that the District contract with Jacobs to proceed with Phase I – Pond Lining Alternative Analysis design professional services.
- Jacobs Engineering participated in a partnering meeting to establish a team environment and develop a work plan with dates for deliverables.
- Jacobs Engineering performed a single-day site visit to evaluate existing conditions, obtain site soil samples, and collect measurements pertaining to the project.

The following work is remaining under Phase I and is scheduled to be complete at the end of August 2021:

- General project criteria. Criteria considerations include confirmation of the minimum effluent storage volume, spoil decant facility requirements, maintenance access, effluent hydraulics associated with the pond, and pond lining design life.
- Provide an updated opinion of probable construction cost for HDPE and shotcrete lining alternatives.
- Analyze pond lining requirements with Granite and IVGID, based on project criteria as well as anticipated ongoing maintenance costs.
- Prepare conceptual (30%) design exhibits to support alternatives analysis and cost estimating, to be utilized for permitting with NDEP.

Staff has requested that Jacobs provide their design services in phases and provide a detailed description of personnel and associated hours. Phase II Preliminary and Final Design Services are detailed in Jacobs Engineering's Scope of Work (Attachment A). A summary of the proposed work is as follows:

- Provide a current topographic survey and boundary survey. The survey information IVGID currently has is over 15 years old, and the design will require a greater level of accuracy.
- Preparation of preliminary 60% design drawings and specifications to include pond grading and associated details, geotechnical lining design, mechanical engineering for the pump and pipeline design, electrical design for the pumps, SCADA design, and structural design of pump connection/deployment system.
- Preparation of final design drawings and specifications.
- Project Management, including attending collaborative project meetings with IVGID, Granite, HDR, and permitting agencies, and QA/QC review of all design materials.

Phase III is anticipated to cover engineering services during construction. The Board of Trustees will be presented with the phased design contracts for approval as the work progresses. Phase II services are to be completed by April 2022.

Staff continues to pursue funding from US Army Corps of Engineers under Section 595. Staff is coordinating with Jacobs Engineering to provide the US Army Corps of Engineers with an updated scope of work based on Phase I analysis.

In accordance with Board Policy 3.1.0., 0.15 Consent Calendar, this item is included on the Consent Calendar as it is routine business of the District and within the currently approved District Budget.

### **III. BID RESULTS**

This item is not subject to competitive bidding within the meaning of Nevada Revised Statute (NRS) 332.115 as described in subsection (b) Professional Services.

Additionally, per NRS 625.530, selection of a professional engineer or registered architect to perform work on public works projects (where the complete project costs exceed \$35,000) is to be made solely on the basis of the competence and qualifications of the engineer or architect and not on the basis of competitive fees.

Jacobs Engineering was awarded Phase I – Pond Lining Alternative Analysis design professional services.

### **IV. FINANCIAL IMPACT AND BUDGET**

Funding exists within the FY 2021-22 CIP Budget for the Effluent Pond Lining Project #2599SS2010 (see attached data sheet – Attachment B). Staff is requesting approval in the amounts of \$425,339.00 for the Jacobs Additional Services Amendment and an additional \$40,000 in contingency for staff to manage should unknown additional services be required. Approving these amounts and the \$36,000 awarded for Phase I work, results in a total of \$501,339 thus far being allocated from the \$1,550,000 project budget.

Engineering Staff time will also be billed to the project to manage the design and bidding phase of the project.

### **V. ALTERNATIVES**

None proposed.

### **VI. BUSINESS IMPACT**

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

### **VII. COMMENT**

This contract has been reviewed and approved by District General Counsel Joshua Nelson

Attachments:

- A – Short Form Agreement (Jacobs Proposal Attached)
- B – 2599SS2010 CIP Data Sheet

**ADDITIONAL SERVICES ADDENDUM #2**  
**to SHORT FORM AGREEMENT DATED JUNE 9, 2021**  
**between**  
**INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT**  
**and**  
**JACOBS ENGINEERING GROUP, INC.**  
**for PROFESSIONAL SERVICES**

This Addendum, dated TBD, shall amend the referenced Agreement to include the following project with relevant description, compensation, and schedule addressed herein.

**PROJECT DESCRIPTION**

Consultant shall perform preliminary and final design engineering services, as described in Attachment A, Consultant's proposal, "Effluent Pond Lining Final Design – Phase 2," dated August 23, 2021, for Owner's effluent export storage pond located on Sweetwater Road.

**PAYMENT TO CONSULTANT**

Payment to be in accordance with Section 4, Payment to Consultant, of the Short Form Agreement, as follows:

1. Compensation must be billed on a Time and Materials basis.
2. All invoices and correspondence are to reference Purchase Order TBD.
3. Total Not to Exceed amount of this work will be **Four Hundred Twenty-Five Thousand, Three Hundred Thirty-Nine Dollars (\$425,339.00).**

**PERIOD OF SERVICE**

Services shall begin on or about September 13, 2021 and be substantially completed by April, 2022.

**IN WITNESS WHEREOF**, the parties have executed this Agreement as of the day and year first written above.

**OWNER:**  
**INCLINE VILLAGE G. I. D.**

**CONSULTANT:**  
**JACOBS ENGINEERING GROUP**

**The undersigned has read, reviewed and agrees to this document.**

By:

\_\_\_\_\_  
Brad B. Underwood, P. E.  
Director of Public Works

\_\_\_\_\_  
Date

By:

\_\_\_\_\_  
*Signature of Authorized Agent*

\_\_\_\_\_  
*Print or Type Name and Title*

\_\_\_\_\_  
Date

OWNER'S Address for Giving Notice:

**INCLINE VILLAGE G. I. D.**  
893 Southwood Boulevard  
Incline Village, Nevada 89451  
775-832-1267- Engineering Division

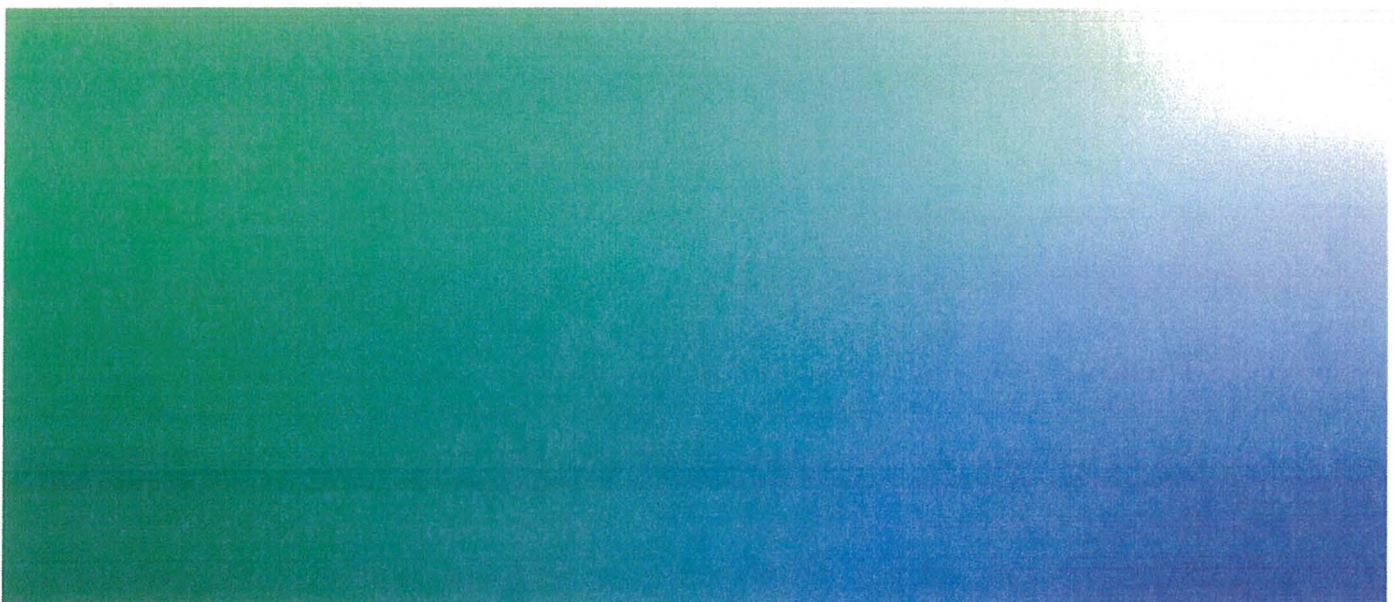
CONSULTANT'S Address for Giving Notice:

**Jacobs Engineering Group**  
50 West Liberty St., Ste. 205  
Reno, Nevada 89501



# **Incline Village General Improvement District Effluent Pond Lining Final Design – Phase 2**

**August 23, 2021**



# Incline Village General Improvement District Effluent Pond Lining Final Design

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This is an agreement for professional services between Jacobs Engineering Group Inc. (Jacobs or Engineer) and Incline Village General Improvement District (IVGID or Owner).

## Background and Project Need

IVGID owns and operates two existing effluent ponds adjacent to the Water Resource Reclamation Facility (WRRF) that is occasionally utilized to temporarily store plant effluent for brief durations. The existing basins have a storage capacity of approximately 2 million gallons (MG) and 15 MG and is presently unlined. Lining of one of the ponds will allow IVGID to actively reincorporate the pond into their wastewater treatment and effluent management practices and comply with current regulations. Additionally, it is likely the effluent pond will be intermittently utilized during required construction improvements to IVGID's effluent export pipeline.

IVGID has selected Granite Construction (Granite) as the construction manager at-risk (CMAR) to construct the effluent pond lining.

## Scope of Professional Services

Engineer will provide the professional engineering services in the three phases:

- Phase 1 – Pond lining alternative analysis
- Phase 2 – Preliminary and final design
- Phase 3 – Engineering services during construction.

This Agreement authorizes time and material services for Phase 2 only. Approved and amended services for Phase 1 are currently in progress. Detailed tasks for Phase 2 Preliminary and Final Design are included for review and approval. Draft services for Phases 3 are presented herein for planning purposes but are subject to revisions resulting from Phase 1 findings including criteria verification and the selected best value pond lining alternate and Phase 2 final design. It is anticipated the scope and budget for Phase 3 will be authorized by future IVGID Board action. Engineer shall not perform unauthorized services without written approval by IVGID.



## Phase 1 – Pond Lining Analysis – Addendum #1 7/14/2021 – FYI ONLY

Engineer will assess previously identified alternates to the pond lining to include review of current products, technologies, and construction methodologies. Engineer will collaborate with IVGID and the CMAR (Granite Construction) to identify additional alternates that may be appropriate to study (if any). Engineer will provide recommended best value alternative for IVGID. Specific tasks and assumptions are presented below.

- Engineer will participate in a partnering meeting to establish the Team environment and work plan. It is assumed that two Jacobs team members will attend the partnering meeting in-person at IVGID. Additional staff can participate remotely, as needed. – COMPLETE 6/16/2021
- Engineer will work with IVGID to establish and confirm general project criteria. Criteria considerations include confirmation of the minimum effluent storage volume, spoil decant facility requirements, maintenance access, effluent hydraulics associated with the pond, and pond lining design life. – In progress
- Engineer will perform a single-day site visit conducted by three team members to evaluate existing conditions and collect measurements pertaining to this project. It is anticipated that supplemental survey and a geotechnical test pit will be required but that survey, the test pit, onsite observations, and the associated documentation of findings will be performed in Phase 2. – COMPLETE 6/29/2021
- Engineer will update opinions of probable construction cost for HDPE and shotcrete lining alternatives. Engineer will coordinate candidate pond lining requirements with Granite and IVGID based on established project criteria. Engineer will include anticipated ongoing maintenance costs in the analysis based on industry information and input from IVGID and Granite. Technical Memo will discuss NDEP permitting and preference in pond lining alternatives with final recommendation for permit application and preliminary design.

### **Engineer will prepare conceptual (30%) design exhibits to support alternatives analysis and cost estimating. Deliverables**

Engineer will prepare and submit the following deliverables:

- Draft design criteria and pond lining analysis and exhibits – Anticipated 7/30/2021
- Final design criteria and pond lining analysis and exhibits – Anticipated 8/31/2021

### **Schedule**

Phase 1 notice to proceed (NTP) is anticipated in June 2021 and the period of performance will extend 12 weeks after NTP. The Phase 1 work plan and project delivery schedule will be developed at the partnering meeting with IVGID and Granite.

### **Budget**

Phase 1 time and materials budgetary amount of \$36,000 is hereby established for services in this Agreement. Engineer will make reasonable efforts to complete the work within the noted budgets and will keep Owner informed of progress toward that end so that the budgets or work effort can be adjusted if found necessary. Engineer will give prompt notice

to Owner whenever Engineer observes or becomes aware of any significant development that affects the scope or timing of Engineer’s services.

Task	Budget
Project Initiation and Partnering Meeting	\$6,500
Project Criteria and Design Coordination	\$11,500
Pond Lining Analysis TM and Exhibits	\$14,500
Project Management and Quality Control	\$3,500
<b>Total</b>	<b>\$36,000</b>

## Phase 2 – Preliminary and Final Design-Revised for Review 7/30/21

Engineer will perform preliminary and final design services and will prepare plans and specifications for the anticipated lining of Pond 2 and associated improvements. Additionally, Engineer will collaborate with IVGID and Granite to obtain environmental permits for this project as described herein.

Following is a brief project description resulting on findings and outcomes from Phase 1 to date:

- Pond 2 will be double-lined with geomembrane/HDPE or equivalent in accordance with Nevada Department of Environmental Protection (NDEP) Guidance WTS-37 requirements, providing up to approximately 6 million gallons of effluent storage capacity.
- A temporary pump station will be deployed at Pond 2. The temporary pump station will have remote control and monitoring using the existing WRRF SCADA system.
- A Permanent Bypass buried pipeline will be designed and constructed from Pond 2 to the existing 16-inch effluent discharge pipeline, which conveys effluent from the WRRF effluent storage tank to Spooner Pump Station. The permanent bypass pipeline will have bidirectional flow providing for conveyance of effluent in and out of Pond 2.
- Improvements at both Pond 1 and the existing pump station at Pond 2 are not planned for this project.
- National Environmental Policy Act (NEPA) documentation is required for U.S. Army Corps of Engineers (USACE) funding and will be completed by others.

Topographic Survey, Preliminary and Final Design scope are defined in the sections below:

### Task 1: Topographic Survey

Historic mapping and topographic survey information is available from previous projects and has been reviewed by the team. The existing information is 15 years old and may be lacking information relevant to today’s conditions at the site, including width and elevation

at the dam crest, sedimentation in the pond and location of existing utilities. The task described assumes a full topographic survey will be completed and delivered in lieu of utilizing the outdated information available.

Engineer will perform the following tasks:

- Control Survey Monuments – Recover and confirm existing on-site control or establish new on-site control monuments suitable for the work described herein.
- Perform a planimetric and topographic survey covering the Mapping Limits area shown below. The estimated acreage is +/-11 acres. This task will include tying in the legacy features (if they still exist) from historical project mapping and legacy control/benchmarks to relate them to the coordinate system and vertical datum specified herein.
  - Horizontal – Horizontal control will be based on the North American Datum of 1983 (NAD83) horizontal datum. Delivered coordinates (x, y) will be provided in the Nevada State Plane Coordinate System, West Zone, U.S. Survey Feet, current adjustment.
  - Vertical - Elevation data (z-coordinates) will be based on the Lake Tahoe Datum as used in previous plant improvement projects. A conversion to the North American Vertical Datum of 1988 (NAVD88) will be provided and all elevations will be reported in U.S. Survey Feet.
- Provide a planimetric and topographic map and digital terrain model (DTM) covering the Mapping Limits shown below:



- Measure location of subsurface paint markings and potholes for existing utilities.

- Research and provide boundary and property line information including easements and prepare a final boundary map.
- Provide a Surveyor's Report to document the surveys performed.

### **Assumptions**

- Existing topographic survey files are outdated and do not reflect current conditions for design and construction.
- Granite and/or IVGID will request utility locate and will pothole existing utilities prior to field survey activity.

### **Deliverables**

Engineer will prepare and submit the following:

- Planimetric and topographic map and digital terrain model (DTM) of the final survey limits and boundary information
- Surveyor's Report to document the survey performed.

## **Task 2: Preliminary Design**

Engineer will perform preliminary design to define required construction improvements associated with the best value pond liner resulting from Phase 1 design criteria and the project definition prepared 7/16/2021. Specific tasks and assumptions are presented below:

### **Pond 2 Lining Design**

- Engineer will prepare for and participate in up to three meetings with permitting agencies to collaborate on achieving success in the permitting process.
- Civil engineering and grading design will be developed commensurate with the best value alternative selected in Phase 1.
- Existing hydrology and hydraulics of Pond 2 will be reviewed with proposed lining considered to confirm compliance with the dam design intent.
- Design of pond lining grading, access and material will meet NDEP WTS-37 design recommendations for effluent storage as determined in Phase 1.
- Leak detection sump system will be designed per NDEP WTS-37 recommendations for a double-lined pond.
- The proposed leak detection sump system and bypass pipeline will not require any conduits or penetrations through the existing dam
- Construction and permanent access routes and security will be coordinated with IVGID and Granite.

### **Mill Creek No. 2 Dam Improvements**

This scope assumes that the lining design and the repairs/restoration of the dam can be completed with minor earthwork, and that no detailed review of embankment settlement, stability, or seepage conditions will be performed.

- The following identified items will be inherently mitigated with the pond lining design:
  - Vegetation removal on the upstream side and within the reservoir and necessary for pond grading and lining.
  - Access restriction and prevention of inappropriate uses will be mitigated with the installation of required perimeter fencing.
  - Existing rip rap will be unnecessary at the low-level outlet with addition of HDPE liner.
  - The low-level outlet structure will be improved, including reinstallation of the trash rack, with the pond lining.
- The following identified issues as recommended in the July 27, 2021 inspection summary by Nevada Department of Conservation and Natural Resources, are NOT included in this scope of services and should be completed under a separate contract or by IVGID:
  - Concrete dental work to fill cavities/spalling on the primary and low-level outlet
  - Minor grading of the crest to provide uniform crest width and elevation (it is not known if the dam was built with uneven crest or if it has been eroded to its current state)
  - Repair erosion on the dam slopes/abutments
  - 
  - A rodent control program will be developed prior to construction and maintained by IVGID.
  - Sediment buildup on the liner will be monitored by IVGID by visual inspections and no monitoring system will be designed

### **Bypass Pipeline Design**

- Design of a Permanent bypass pipeline with bi-directional flow from Pond 2 improvements to existing 16" effluent discharge via IVGID approved alignment.
- Pipeline capacity, size and connection details will be identified and verified.
- Existing utilities will be located and identified via potholing during topographic survey.

### **Pond 2 Temporary Pump Station**

- Electrical requirements will be confirmed. It is presently assumed power supply at existing pump station at Pond 2 is sufficient for temporary pump, but electrical routing from WRRF may be required.
- Temporary pump capacity will be determined with assumption of maximum capacity of 2300 gpm at Spooner Pump Station.
- Pump configuration, submersible or floating, and deployment system will be conceptually designed in conjunction with the pond lining system in collaboration with IVGID and CMAR. Engineer will define pump performance requirements and prepare conceptual engineer drawings presenting configuration and layout. Procurement and detailing will be performed by others.

- SCADA connections and configuration will be designed for temporary pump communication with existing effluent storage tank, Spooner Pump Station, and available for future use of temporary pump.

### Assumptions

- Two site visits by up to 3 staff members are assumed for the preliminary design phase.
- Jacobs Internal Discipline Quality Control (QC) review will be completed prior to Client deliverable.
- Engineer will prepare and deliver 60% design drawings and technical specifications in electronic PDF format.
- IVGID and Granite will have two weeks to review and provide input on the 60% design drawings and then a Team workshop will be held to discuss and adjudicate the comments.
- Granite will be involved in throughout the design process for constructability review and value engineering.
- Engineer will provide quantities as requested but no formal cost estimate for design. Cost estimation will be completed by Granite.

### Deliverables

Engineer will prepare and submit the following:

- 60% design drawings and technical specifications. An anticipated final sheet list is listed below:
  - Cover
  - Abbreviations
  - General Civil
  - General Structural
  - General Mechanical
  - General Electrical
  - Overall Site Plan and Survey Control
  - Civil Pond Area Plan 1
  - Civil Pond Area Plan 2
  - Civil Pond Sections 1
  - Civil Pond Sections 2
  - Civil Details 1
  - Civil Details 2
  - Pond Lining Plan
  - Pond Lining Sections 1
  - Pond Lining Sections 2
  - Pond Lining Details 1
  - Pond Lining Details 2
  - Pond Lining Details 3
  - Structural Plan
  - Structural Details 1
  - Structural Details 2
  - Pipeline Plan & Profile 1
  - Pipeline Plan and Profile 2
  - Pipeline Details 1
  - Mechanical Pump Station Plan
  - Mechanical Pump Station Section
  - Mechanical Details 1
  - Electrical Site Plan
  - I&C SCADA Details 1
  - I&C SCADA Details 2
  - Electrical Single Line/Panel
  - Standard Details 1
  - Standard Details 2
  - Standard Details 3

### Task 3: Final Design

Engineer will prepare final design plans and specifications for pond lining and associated project improvements defined in Phase 1 and Preliminary Engineering.

- Engineer will prepare a set of 90% design drawings and specifications and a final set of Contract Documents. Jacobs Internal Discipline Quality Control (QC) review will be completed prior to Client deliverable.
- Plans and specifications will be signed and sealed by professional engineers licensed in the State of Nevada.

The sheet list finalized during preliminary design will be advanced for final design. Any design items identified with 60% Design review that may be out of scope will be reviewed and included in a scope and cost amendment as needed. Additional sheets will be considered as necessary.

#### Deliverables

Engineer will prepare and submit the following:

- 90% design drawings and technical specifications submitted electronically in PDF format
- Contract Documents comprising final (100%) design drawings and specifications submitted electronically in PDF format

### Task 4: Project Management

Project and Design Management will include internal and external kickoff meeting, recurring internal and external design meetings, progress reporting and invoicing to the Client, overall team coordination and management and change management.

### Phase 2 Schedule

A preliminary schedule has been developed based on initial Project Partnering meeting with Granite and IVGID and is attached. It is anticipated that the general period of performance for Phase 2 will be September 2021 through April 2022.

### Phase 2 Budget

The assumed level of effort and budget for Phase 2 is attached and will be amended during the design phase, if needed.

Task	Budget
Task 1: Topographic Survey	\$25,377
Task 2: Preliminary Design	\$243,194
Task 3: Final Design	\$125,608
Task 4: Project Management	\$23,960

Task	Budget
Expenses	\$7,200
<b>Subtotal</b>	<b>\$425,339</b>

## Phase 3 – Engineering Services During Construction - TBD

Engineer will continue Team collaboration and provide professional services during the construction phase. It is assumed that construction management will be provided by others. Engineering services during construction will include assistance with construction administration including the following activities:

- Participation in biweekly construction progress meetings
- Review and responses to up to 20 shop drawing submittals
- Review and responses to up to 15 requests for information or clarification (RFIs)
- Periodic site visits to observe and document pond lining construction activities. Budget includes two 2-day site visits.
- CMAR will provide red-line markups representing as-constructed conditions. Engineer will prepare record drawings upon construction completion.

### Deliverables

Engineer will prepare and submit the following:

- Responses to shop drawing submittals and RFIs
- Record drawings submitted electronically in PDF format

### Schedule

A schedule has not yet been determined and will be informed by Phase 1, Preliminary Design, and Final Design. However, it is anticipated that the general period of performance for Phase 3 will be May 2022 through December 2022.

### Budget

A budget has not yet been developed and will be informed by results from Phase 1, Preliminary Design, and Final Design.

## Compensation

Compensation by IVGID to Engineer will be as follows:

### Cost Reimbursable Per Diem (Time and Expense)

For services defined in this Task Order, at the Per Diem Rates referenced below, plus Direct Expenses, plus a service charge of 10 percent of Direct Expenses and 10 percent of subcontracts and outside services, plus applicable sales, use, value added, business transfer, gross receipts, or other similar taxes.



## **Per Diem Rates**

Per Diem Rates are those hourly rates charged for work performed on the Project by Engineer's employees of the indicated classifications. These rates are subject to revision for other projects and annual calendar year adjustments; include all allowances for salary, overheads, and fees; but do not include allowances for Direct Expenses, subcontracts, and outside services.

## **Direct Expenses**

Direct Expenses are those necessary costs and charges incurred for the Project including, but not limited to: (1) the direct costs of transportation, meals and lodging, mail, and supplies; (2) Engineer's current standard rate charges for reproduction services; and (3) Engineer's standard project charges for special health and safety requirements of OSHA.

## **Renegotiation of Compensation**

The estimate is based on the assumptions listed in this Agreement and timely completion of the Project. Engineer is not obligated to incur costs beyond the indicated budgets, as may be adjusted, and Owner is not obligated to pay Engineer beyond these limits. If the Project progresses under different conditions than the assumptions listed in this Agreement or if project timing deviates from the assumed schedule for causes beyond Engineer's control, Engineer reserves the right to request renegotiation of those portions of the fee affected by the time change.

It is agreed that the Engineer cannot be responsible for delays occasioned by factors beyond Engineer's control, or factors which would not reasonably have been foreseen at the time this Agreement was executed.

## **Invoicing**

Amount invoiced each month will be based on time and expenses expended to date. Invoices shall be accompanied by a listing of charges that make up the invoice total, including employee names, billing rates, and hours of project staff, plus direct expenses.

**Effluent Pond Lining Final Design - Phase 2**  
Jacobs Level of Effort

8/23/2021

Category	Hours by Position																	Estimated Labor Hours	Estimated Labor Subtotal	Estimated ODC/Expenses	Budget Subtotal
	PM/Civil Engineer Ashley Kelllogg	Design Manager Travis Howard	Lining/Geotech. Engineer Mark Twede	Civil Engineer Travis Howard	CAD Design Technicians TBD [All Disciplines]	Structural Engineer Sean Troyan	Mech. Engineer Bill Misslin	Conveyance Engineer Jordan Vazquez	I&C/SCADA Design Derek Johnson	Electrical Engineer Craig Curworth	Quality Control TBD [All Disciplines]	Geotechnical Review/Dam Specialist Dean Harris	Survey PM Roland Breeks	Survey Staff Ethan Hoops	Survey Staff George Wills	Survey QC Aaron Wills	Admin./Doc. Processing Diana Dore				
<b>2021 Hourly Rate:</b>	\$178	\$178	\$195	\$178	\$109	\$178	\$178	\$178	\$178	\$178	\$219	\$219	\$178	\$91	\$109	\$219	\$78				
<b>Task:</b>																					
Topographic Survey	8	0	0	8	0	0	0	0	0	0	0	0	84	104	46	1	211	\$ 25,377	\$ 6,000	\$ 31,377	
Topographic Survey	8			8									36	80	30	1		\$ 20,025			
Boundary Survey													8	24	16			\$ 5,352			
Preliminary 60% Design Drawings and Specs	102	35	178	160	410	100	110	122	100	90	52	16	0	0	0	0	40	1515	\$ 243,194	\$ 700	\$ 243,894
Civil - Pond Grading and Details	80	5		150	80						8							\$ 52,302			
Geotechnical - Lining	5		160		20						0	16						\$ 37,774			
Mechanical - Pumps and pipeline	5			80			100	100			8							\$ 46,962			
Electrical - Pump service	5			80						80	8							\$ 25,602			
I&C - SCADA design	5			60					80		8							\$ 23,422			
Structural - Pond pump connection	5			80	90						8							\$ 27,382			
Site Visit	12		12					12	12									\$ 8,748	\$ 700		
QA/QC and Review Meetings	10	5	6	10	10	10	10	10	8	10	12	0					40	\$ 24,562			
Final Design Drawings and Specs	80	35	70	70	150	48	68	68	46	48	30	16	0	0	0	0	40	769	\$ 125,608	\$ 500	\$ 126,108
Civil - Pond Grading and Details	60	5		60	60						5							\$ 29,885			
Geotechnical - Lining	5		60		10						0	16						\$ 17,184			
Mechanical - Pumps and pipeline	5			40			60	60			5							\$ 27,705			
Electrical - Pump service	5			10						40	5							\$ 10,195			
I&C - SCADA design	5			10					40		5							\$ 10,195			
Structural - Pond pump connection	5			10	40						5							\$ 10,195			
QA/QC and Review Meetings	20	5	10	10	10	8	8	8	6	8	5	0					40	\$ 20,249			
Project Management	90	20									20							130	\$ 23,960	\$ -	\$ 23,960
<b>Total</b>	<b>280</b>	<b>90</b>	<b>248</b>	<b>238</b>	<b>560</b>	<b>148</b>	<b>178</b>	<b>190</b>	<b>146</b>	<b>138</b>	<b>102</b>	<b>32</b>	<b>44</b>	<b>104</b>	<b>46</b>	<b>1</b>	<b>80</b>	<b>2625</b>	<b>\$ 418,139</b>	<b>\$ 7,200</b>	<b>\$ 425,339</b>



## Project Summary

<b>Project Number:</b>	2599SS2010
<b>Title:</b>	Effluent Pond Lining Project
<b>Project Type:</b>	D - Capital Improvement - Existing Facilities
<b>Division:</b>	99 - General Administration - Sewer
<b>Budget Year:</b>	2022
<b>Finance Options:</b>	
<b>Asset Type:</b>	SS - Sewer System
<b>Active:</b>	No

<b>Project Description</b>				
Line the 2.4 million gallon effluent storage pond at the Water Resource Recovery Facility (WRRF) with reinforced concrete or the combination of concrete and shotcrete lining as recommended in the WRRF Effluent Storage Alternative Analysis Memorandum, prepared by Jacobs Engineering, dated September 2018.				
<b>Project Internal Staff</b>				
The engineering division will support this project. Outside consultants will be used for design and management. The project will be publicly advertised in accordance with NRS 338.				
<b>Project Justification</b>				
The effluent pond is a 2.4 million gallon effluent storage basin located directly adjacent to the Water Resource Recovery Facility (WRRF). This storage basin was designed to provide automated and passive back-up effluent storage in the event the Plant's 500,000-gallon effluent storage tank fills to capacity. As a condition of IVGID's current operating permit with the Nevada Department of Environmental Protection (NDEP), IVGID is no longer permitted to utilize this storage basin for effluent storage due to it being unlined. Lining the pond will allow IVGID to return the pond into the operating plan with NDEP and provide greater protection to Lake Tahoe.				
<b>Forecast</b>				
<b>Budget Year</b>	<b>Total Expense</b>	<b>Total Revenue</b>	<b>Difference</b>	
2022				
Carry Forward from FYE 6.30.2021 from CIP 2524SS1010 Effluent Pipeline Project	1,550,000	0	1,550,000	
<b>Year Total</b>	<b>1,550,000</b>	<b>0</b>	<b>1,550,000</b>	
	<b>1,550,000</b>	<b>0</b>	<b>1,550,000</b>	
<b>Year Identified</b>	<b>Start Date</b>	<b>Est. Completion Date</b>	<b>Manager</b>	<b>Project Partner</b>
2020	Jul 1, 2020	Jun 30, 2023	Engineering Manager	